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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,840	09/05/2003	William A. Moffatt	1008-US	8406

7590 07/06/2006

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EXAMINER	
FULLER, ERIC B	
ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/656,840	MOFFATT ET AL.	
	Examiner	Art Unit	
	Eric B. Fuller	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-19, drawn to an apparatus, classified in class 118, subclass 715.

II. Claims 20-50, drawn to a method, classified in class 427, subclass 248.1.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus does not require a substrate to be processed.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Mike Gooth on November 22, 2005 a provisional election was made without traverse to prosecute the invention of II, claims 20-50. Applicant in replying to this Office action must make affirmation of this election.

Claims 1-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-22, 24-26, 28-40, 46, and 48 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Loan et al. (US 6,136,725).

Loan teaches a method in which a CVD process if performed in a process chamber. The reactants are fed into vaporizations chambers prior to being fed into the process chamber (abstract). Each reactant may have its own vaporizer chamber (column 5, lines 30-36). The pressure is adjusted for each process step (column 13, lines 22-39). This reads on the second pressure being higher or lower than the first pressure. The inert gas is taught (column 7, lines 60-67). Silane is taught to be one of the reactants (column 2, lines 5-15). The chamber is taught to be evacuated and

purged with an inert gas (column 7, lines 60-67), which reads on the dehydration step, according to the applicant's own specification (paragraph 48).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 27 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loan et al. (US 6,136,725).

Loan teaches the limitations above, but is silent to the inert gas being nitrogen. However, nitrogen (N_2) is a known inert gas. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize nitrogen in the process taught by Loan. By doing so, one would have a reasonable expectation of success, as Loan teaches the use of an inert gas and nitrogen is a known inert gas.

Claims 23 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loan et al. (US 6,136,725).

Loan teaches the limitations above, but is silent to the reservoir being the manufacture's source bottle. However, it is explicitly taught that the chemicals used as the precursors have a low vapor pressure (low tendency to evaporate under atmospheric pressures) (column 2, lines 30-40). It is also taught that the invention is

not sensitive to gas or solids that may get absorbed into the chemicals (column 1, lines 40-67). From this, one of ordinary skill would understand that no special reservoir is required for the process. Additionally, since chemicals would come from the manufacturer already in a container that is suitable for holding the specific chemical, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the manufacturer's own source bottle in the process taught by Loan. By doing so, one would have a reasonable expectation of success, as Loan makes obvious that no special reservoir is required and the manufacturer would already provide a bottle that is suitable for holding the specific chemical contained within.

Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loan et al. (US 6,136,725), as applied to claims above, and further in view of the applicant's admitted prior art.

Loan teaches the process above is pertinent for reactants with low volatility, but is silent to using amino silanes and other specific silanes claimed by the applicant. However, the applicant admits that it is well known in the art to deposit amino, mercapto, or epoxy silanes to glass substrates and that the reactants have low volatility (paragraph 10). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the reactants is substrates claimed by the applicant in the process taught by Loan. By doing so, one would have a reasonable expectation of success, as the process taught by Loan is best for low volatile reactants and the applicant admits that these reactants are known and have low volatility.

Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loan et al. (US 6,136,725), as applied to claims above, and further in view of Uhlenbrock et al. (US 6,214,729 B1).

Loan teaches the limitations above, but is silent to using a syringe pump. However, Uhlenbrock teaches the art recognized suitability of using a syringe pump to pick up the liquid feed and deliver it to a vaporizer (figure 1; example 1). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a syringe pump in the process taught by Loan. By doing so, one would have a reasonable expectation of success, as Loan teaches delivering a liquid to a vaporizer and Uhlenbrock teaches the art recognized suitability of using a syringe pump to do so.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Fuller whose telephone number is (571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks, can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EBF

TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER